

SEQUENCE LISTING

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<120> RPS2 GENE FAMILY, PRIMERS, PROBES, AND
 DETECTION METHODS

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<150> US 09/301,085

<151> 1999-04-28

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| Val | Gly | Cys | Ala | Gln | Val | Leu | Cys | Glu | Ser | Met | Asn | Met | Ala | Glu | Arg |
| | | | 20 | | | | | 25 | | | | | 30 | | |
| Arg | Gly | His | Lys | Thr | Asp | Leu | Arg | Gln | Ala | Ile | Thr | Asp | Leu | Arg | Ile |
| | | 35 | | | | | 40 | | | | | 45 | | | |
| Gln | Gln | Asp | Gly | Leu | Glu | Gly | Arg | Ser | Cys | Ser | Asn | Arg | Ala | Arg | Glu |
| | 50 | | | | | 55 | | | | | 60 | | | | |
| Trp | Leu | Ser | Ala | Val | Gln | Val | Thr | Glu | Thr | Lys | Thr | Ala | Leu | Leu | Leu |
| 65 | | | | | 70 | | | | | 75 | | | | 80 | |
| Val | Arg | Phe | Arg | Arg | Arg | Glu | Gln | Arg | Thr | Arg | Met | Arg | Arg | Arg | Tyr |
| | | | 85 | | | | | | 90 | | | | | 95 | |
| Leu | Ser | Cys | Phe | Gly | Cys | Ala | Asp | Tyr | Lys | Leu | Cys | Lys | Lys | Val | Ser |
| | | | 100 | | | | | 105 | | | | | 110 | | |
| Ala | Ile | Leu | Lys | Ser | Ile | Gly | Glu | Leu | Arg | Glu | Arg | Ser | Glu | Ala | Ile |
| | 115 | | | | | | 120 | | | | | 125 | | | |
| Lys | Thr | Asp | Gly | Gly | Ser | Ile | Gln | Val | Thr | Cys | Arg | Glu | Ile | Pro | Ile |
| | 130 | | | | | 135 | | | | | 140 | | | | |
| Lys | Ser | Val | Val | Gly | Asn | Thr | Thr | Met | Met | Glu | Gln | Val | Leu | Glu | Phe |
| 145 | | | | | 150 | | | | | 155 | | | | 160 | |
| Leu | Ser | Glu | Glu | Glu | Glu | Arg | Gly | Ile | Ile | Gly | Val | Tyr | Gly | Pro | Gly |
| | | | 165 | | | | | 170 | | | | | | 175 | |

| | | | | | | | | | | | | | | | | | | |
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| Gly | Val | Gly | Lys | Thr | Thr | Leu | Met | Gln | Ser | Ile | Asn | Asn | Glu | Leu | Ile | 180 | 185 | 190 |
| Thr | Lys | Gly | His | Gln | Tyr | Asp | Val | Leu | Ile | Trp | Val | Gln | Met | Ser | Arg | 195 | 200 | 205 |
| Glu | Phe | Gly | Glu | Cys | Thr | Ile | Gln | Gln | Ala | Val | Gly | Ala | Arg | Leu | Gly | 210 | 215 | 220 |
| Leu | Ser | Trp | Asp | Glu | Lys | Glu | Thr | Gly | Glu | Asn | Arg | Ala | Leu | Lys | Ile | 225 | 230 | 235 |
| Tyr | Arg | Ala | Leu | Arg | Gln | Lys | Arg | Phe | Leu | Leu | Leu | Leu | Asp | Asp | Val | 245 | 250 | 255 |
| Trp | Glu | Glu | Ile | Asp | Leu | Glu | Lys | Thr | Gly | Val | Pro | Arg | Pro | Asp | Arg | 260 | 265 | 270 |
| Glu | Asn | Lys | Cys | Lys | Val | Met | Phe | Thr | Thr | Arg | Ser | Ile | Ala | Leu | Cys | 275 | 280 | 285 |
| Asn | Asn | Met | Gly | Ala | Glu | Tyr | Lys | Leu | Arg | Val | Glu | Phe | Leu | Glu | Lys | 290 | 295 | 300 |
| Lys | His | Ala | Trp | Glu | Leu | Phe | Cys | Ser | Lys | Val | Trp | Arg | Lys | Asp | Leu | 305 | 310 | 315 |
| Leu | Glu | Ser | Ser | Ser | Ile | Arg | Arg | Leu | Ala | Glu | Ile | Ile | Val | Ser | Lys | 325 | 330 | 335 |
| Cys | Gly | Gly | Leu | Pro | Leu | Ala | Leu | Ile | Thr | Leu | Gly | Gly | Ala | Met | Ala | 340 | 345 | 350 |
| His | Arg | Glu | Thr | Glu | Glu | Glu | Trp | Ile | His | Ala | Ser | Glu | Val | Leu | Thr | 355 | 360 | 365 |
| Arg | Phe | Pro | Ala | Glu | Met | Lys | Gly | Met | Asn | Tyr | Val | Phe | Ala | Leu | Leu | 370 | 375 | 380 |
| Lys | Phe | Ser | Tyr | Asp | Asn | Leu | Glu | Ser | Asp | Leu | Leu | Arg | Ser | Cys | Phe | 385 | 390 | 395 |
| Leu | Tyr | Cys | Ala | Leu | Phe | Pro | Glu | Glu | His | Ser | Ile | Glu | Ile | Glu | Gln | 405 | 410 | 415 |
| Leu | Val | Glu | Tyr | Trp | Val | Gly | Glu | Gly | Phe | Leu | Thr | Ser | Ser | His | Gly | 420 | 425 | 430 |
| Val | Asn | Thr | Ile | Tyr | Lys | Gly | Tyr | Phe | Leu | Ile | Gly | Asp | Leu | Lys | Ala | 435 | 440 | 445 |
| Ala | Cys | Leu | Leu | Glu | Thr | Gly | Asp | Glu | Lys | Thr | Gln | Val | Lys | Met | His | 450 | 455 | 460 |
| Asn | Val | Val | Arg | Ser | Phe | Ala | Leu | Trp | Met | Ala | Ser | Glu | Gln | Gly | Thr | 465 | 470 | 475 |
| Tyr | Lys | Glu | Leu | Ile | Leu | Val | Glu | Pro | Ser | Met | Gly | His | Thr | Glu | Ala | 485 | 490 | 495 |
| Pro | Lys | Ala | Glu | Asn | Trp | Arg | Gln | Ala | Leu | Val | Ile | Ser | Leu | Leu | Asp | 500 | 505 | 510 |
| Asn | Arg | Ile | Gln | Thr | Leu | Pro | Glu | Lys | Leu | Ile | Cys | Pro | Lys | Leu | Thr | 515 | 520 | 525 |
| Thr | Leu | Met | Leu | Gln | Gln | Asn | Ser | Ser | Leu | Lys | Lys | Ile | Pro | Thr | Gly | 530 | 535 | 540 |
| Phe | Phe | Met | His | Met | Pro | Val | Leu | Arg | Val | Leu | Asp | Leu | Ser | Phe | Thr | 545 | 550 | 555 |
| Ser | Ile | Thr | Glu | Ile | Pro | Leu | Ser | Ile | Lys | Tyr | Leu | Val | Glu | Leu | Tyr | 565 | 570 | 575 |
| His | Leu | Ser | Met | Ser | Gly | Thr | Lys | Ile | Ser | Val | Leu | Pro | Gln | Glu | Leu | 580 | 585 | 590 |
| Gly | Asn | Leu | Arg | Lys | Leu | Lys | His | Leu | Asp | Leu | Gln | Arg | Thr | Gln | Phe | 595 | 600 | 605 |
| Leu | Gln | Thr | Ile | Pro | Arg | Asp | Ala | Ile | Cys | Trp | Leu | Ser | Lys | Leu | Glu | 610 | 615 | 620 |
| Val | Leu | Asn | Leu | Tyr | Tyr | Ser | Tyr | Ala | Gly | Trp | Glu | Leu | Gln | Ser | Phe | 625 | 630 | 635 |
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| tttcacgatc | cccgacaggg | gccggaccta | gcaatgccgc | tcgattactt | taatcagcga | 900 |
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| cgagtcactg | cccaccaacg | tcacgcaccc | gacgccaagc | ttgaggcagt | gctcccgcaa | 1440 |
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<400> 106

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| 1 | | | | 5 | | | | 10 | | | | | | 15 | |
| Val | Pro | Ser | His | Ala | Ala | Pro | Thr | Gln | Ala | Lys | Gln | Thr | Asn | Leu | Gln |
| | | | 20 | | | | | 25 | | | | | 30 | | |
| Ser | Glu | Ala | Gly | Asp | Leu | Asp | Ala | Arg | Lys | Ser | Ser | Ala | Ser | Ser | Pro |
| | | 35 | | | | | 40 | | | | | 45 | | | |
| Glu | Thr | Arg | Ala | Leu | Leu | Ala | Thr | Lys | Thr | Val | Leu | Gly | Arg | His | Lys |
| | 50 | | | | | 55 | | | | | 60 | | | | |
| Ile | Glu | Val | Pro | Ala | Phe | Gly | Gly | Trp | Phe | Lys | Lys | Lys | Ser | Ser | Lys |
| 65 | | | | | 70 | | | | 75 | | | | | 80 | |
| His | Glu | Thr | Gly | Gly | Ser | Ser | Ala | Asn | Ala | Asp | Ser | Ser | Ser | Val | Ala |
| | | | 85 | | | | | 90 | | | | | | 95 | |
| Ser | Asp | Ser | Thr | Glu | Lys | Pro | Leu | Phe | Arg | Leu | Thr | His | Val | Pro | Tyr |
| | | | 100 | | | | | 105 | | | | | 110 | | |
| Val | Ser | Gln | Gly | Asn | Glu | Arg | Met | Gly | Cys | Trp | Tyr | Ala | Cys | Ala | Arg |
| | | 115 | | | | | 120 | | | | | 125 | | | |
| Met | Val | Gly | His | Ser | Val | Glu | Ala | Gly | Pro | Arg | Leu | Gly | Leu | Pro | Glu |
| | 130 | | | | | 135 | | | | | 140 | | | | |
| Leu | Tyr | Glu | Gly | Arg | Glu | Ala | Pro | Ala | Gly | Leu | Gln | Asp | Phe | Ser | Asp |
| 145 | | | | | 150 | | | | | 155 | | | | | 160 |
| Val | Glu | Arg | Phe | Ile | His | Asn | Glu | Gly | Leu | Thr | Arg | Val | Asp | Leu | Pro |
| | | | 165 | | | | | 170 | | | | | | 175 | |
| Asp | Asn | Glu | Arg | Phe | Thr | His | Glu | Glu | Leu | Gly | Ala | Leu | Leu | Tyr | Lys |
| | | | 180 | | | | | 185 | | | | | | 190 | |
| His | Gly | Pro | Ile | Ile | Phe | Gly | Trp | Lys | Thr | Pro | Asn | Asp | Ser | Trp | His |
| | | 195 | | | | | 200 | | | | | 205 | | | |
| Met | Ser | Val | Leu | Thr | Gly | Val | Asp | Lys | Glu | Thr | Ser | Ser | Ile | Thr | Phe |
| | 210 | | | | | 215 | | | | | 220 | | | | |
| His | Asp | Pro | Arg | Gln | Gly | Pro | Asp | Leu | Ala | Met | Pro | Leu | Asp | Tyr | Phe |
| 225 | | | | | 230 | | | | 235 | | | | | | 240 |
| Asn | Gln | Arg | Leu | Ala | Trp | Gln | Val | Pro | His | Ala | Met | Leu | Tyr | Arg | |
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| Phe | Ile | Leu | Leu | Asn | Lys | Phe | Asn | Arg | Pro | Asn | Ser | Lys | Asp | Ser | Ile |
| | | 20 | | | | | 25 | | | | | 30 | | | |
| Val | Asn | Asp | Asp | Asp | Asp | Ser | Thr | Ser | Glu | Val | Asp | Ala | Ile | Ser | Asp |
| | 35 | | | | | 40 | | | | | 45 | | | | |
| Ser | Thr | Asn | Pro | Ser | Gly | Ser | Phe | Pro | Ser | Val | Glu | Tyr | Glu | Val | Phe |
| | 50 | | | | 55 | | | | | 60 | | | | | |
| Leu | Ser | Phe | Arg | Gly | Pro | Asp | Thr | Arg | Glu | Gln | Phe | Thr | Asp | Phe | Leu |
| 65 | | | | 70 | | | | | 75 | | | | | 80 | |
| Tyr | Gln | Ser | Leu | Arg | Arg | Tyr | Lys | Ile | His | Thr | Phe | Arg | Asp | Asp | Asp |
| | | | 85 | | | | | 90 | | | | | 95 | | |
| Glu | Leu | Leu | Lys | Gly | Lys | Glu | Ile | Gly | Pro | Asn | Leu | Leu | Arg | Ala | Ile |
| | | | 100 | | | | | 105 | | | | | 110 | | |
| Asp | Gln | Ser | Lys | Ile | Tyr | Val | Pro | Ile | Ile | Ser | Ser | Gly | Tyr | Ala | Asp |
| | 115 | | | | | 120 | | | | | | 125 | | | |
| Ser | Lys | Trp | Cys | Leu | Met | Glu | Leu | Ala | Glu | Ile | Val | Arg | Arg | Gln | Glu |
| | 130 | | | | 135 | | | | | | 140 | | | | |
| Glu | Asp | Pro | Arg | Arg | Ile | Ile | Leu | Pro | Ile | Phe | Tyr | Met | Val | Asp | Pro |
| 145 | | | | | 150 | | | | | 155 | | | | 160 | |
| Ser | Asp | Val | Arg | His | Gln | Thr | Gly | Cys | Tyr | Lys | Lys | Ala | Phe | Arg | Lys |
| | | | | 165 | | | | | 170 | | | | | 175 | |
| His | Ala | Asn | Lys | Phe | Asp | Gly | Gln | Thr | Ile | Gln | Asn | Trp | Lys | Asp | Ala |
| | | 180 | | | | | 185 | | | | | | 190 | | |
| Leu | Lys | Lys | Val | Gly | Asp | Leu | Lys | Gly | Trp | His | Ile | Gly | Lys | Asn | Asp |
| | 195 | | | | | 200 | | | | | | 205 | | | |
| Lys | Gln | Gly | Ala | Ile | Ala | Asp | Lys | Val | Ser | Ala | Asp | Ile | Trp | Ser | His |
| | 210 | | | | 215 | | | | | | 220 | | | | |
| Ile | Ser | Lys | Glu | Asn | Leu | Ile | Leu | Glu | Thr | Asp | Glu | Leu | Val | Gly | Ile |
| 225 | | | | 230 | | | | | | 235 | | | | 240 | |
| Asp | Asp | His | Ile | Thr | Ala | Val | Leu | Glu | Lys | Leu | Ser | Leu | Asp | Ser | Glu |
| | | | 245 | | | | | | 250 | | | | | 255 | |
| Asn | Val | Thr | Met | Val | Gly | Leu | Tyr | Gly | Met | Gly | Gly | Ile | Gly | Lys | Thr |
| | | 260 | | | | | 265 | | | | | | 270 | | |
| Thr | Thr | Ala | Lys | Ala | Val | Tyr | Asn | Lys | Ile | Ser | Ser | Cys | Phe | Asp | Cys |
| | | 275 | | | | 280 | | | | | | 285 | | | |
| Cys | Cys | Phe | Ile | Asp | Asn | Ile | Arg | Glu | Thr | Gln | Glu | Lys | Asp | Gly | Val |
| | 290 | | | | 295 | | | | | | 300 | | | | |
| Val | Val | Leu | Gln | Lys | Lys | Leu | Val | Ser | Glu | Ile | Leu | Arg | Ile | Asp | Ser |
| 305 | | | | | 310 | | | | | 315 | | | | 320 | |
| Gly | Ser | Val | Gly | Phe | Asn | Asn | Asp | Ser | Gly | Gly | Arg | Lys | Thr | Ile | Lys |
| | | | 325 | | | | | | 330 | | | | | 335 | |
| Glu | Arg | Val | Ser | Arg | Phe | Lys | Ile | Leu | Val | Val | Leu | Asp | Asp | Val | Asp |
| | | 340 | | | | | 345 | | | | | | 350 | | |
| Glu | Lys | Phe | Lys | Phe | Glu | Asp | Met | Leu | Gly | Ser | Pro | Lys | Asp | Phe | Ile |
| | 355 | | | | | 360 | | | | | | 365 | | | |
| Ser | Gln | Ser | Arg | Phe | Ile | Ile | Thr | Ser | Arg | Ser | Met | Arg | Val | Leu | Gly |
| | 370 | | | | 375 | | | | | | 380 | | | | |
| Thr | Leu | Asn | Glu | Asn | Gln | Cys | Lys | Leu | Tyr | Glu | Val | Gly | Ser | Met | Ser |
| 385 | | | | | 390 | | | | | 395 | | | | 400 | |
| Lys | Pro | Arg | Ser | Leu | Glu | Leu | Phe | Ser | Lys | His | Ala | Phe | Lys | Lys | Asn |
| | | | 405 | | | | | | 410 | | | | | 415 | |
| Thr | Pro | Pro | Ser | Tyr | Tyr | Glu | Thr | Leu | Ala | Asn | Asp | Val | Val | Asp | |
| | | 420 | | | | | 425 | | | | | 430 | | | |
| Thr | Thr | Ala | Gly | Leu | Pro | Leu | Thr | Leu | Lys | Val | Ile | Gly | Ser | Leu | Leu |
| | 435 | | | | | 440 | | | | | 445 | | | | |
| Phe | Lys | Gln | Glu | Ile | Ala | Val | Trp | Glu | Asp | Thr | Leu | Glu | Gln | Leu | Arg |
| | 450 | | | | 455 | | | | | | 460 | | | | |

Arg Thr Leu Asn Leu Asp Glu Val Tyr Asp Arg Leu Lys Ile Ser Tyr
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 Asp Ala Leu Asn Pro Glu Ala Lys Glu Ile Phe Leu Asp Ile Ala Cys
 485 490 495
 Phe Phe Ile Gly Gln Asn Lys Glu Glu Pro Tyr Tyr Met Trp Thr Asp
 500 505 510
 Cys Asn Phe Tyr Pro Ala Ser Asn Ile Ile Phe Leu Ile Gln Arg Cys
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 Met Ile Gln Val Gly Asp Asp Glu Phe Lys Met His Asp Gln Leu
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 Arg Asp Met Gly Arg Glu Ile Val Arg Arg Glu Asp Val Leu Pro Trp
 545 550 555 560
 Lys Ser Arg Ile Trp Ser Ala Glu Glu Gly Ile Asp Leu Leu Leu Asn
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 Lys Arg Lys Gly Ser Ser Lys Val Lys Ala Ile Ser Ile Pro Trp Gly
 580 585 590
 Val Lys Tyr Glu Phe Lys Ser Glu Cys Phe Leu Asn Leu Ser Glu Leu
 595 600 605
 Arg Tyr Leu His Ala Arg Glu Ala Met Leu Thr Gly Asp Phe Asn Asn
 610 615 620
 Leu Leu Pro Asn Leu Lys Trp Leu Glu Leu Pro Phe Tyr Lys His Gly
 625 630 635 640
 Glu Asp Asp Pro Pro Leu Thr Asn Tyr Thr Met Lys Asn Leu Ile Ile
 645 650 655
 Val Ile Leu Glu His Ser His Ile Thr Ala Asp Asp Trp Gly Gly Trp
 660 665 670
 Arg His Met Met Lys Met Ala Glu Arg Leu Lys Val Val Arg Leu Ala
 675 680 685
 Ser Asn Tyr Ser Leu Tyr Gly Arg Arg Val Arg Leu Ser Asp Cys Trp
 690 695 700
 Arg Phe Pro Lys Ser Ile Glu Val Leu Ser Met Thr Ala Ile Glu Met
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 Asp Glu Val Asp Ile Gly Glu Leu Lys Lys Leu Lys Thr Leu Val Leu
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 Lys Pro Cys Pro Ile Gln Lys Ile Ser Gly Gly Thr Phe Gly Met Leu
 740 745 750
 Lys Gly Leu Arg Glu Leu Cys Leu Glu Phe Asn Trp Gly Thr Asn Leu
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 Arg Glu Val Val Ala Asp Ile Gly Gln Leu Ser Ser Leu Lys Val Leu
 770 775 780
 Lys Thr Gly Ala Lys Glu Val Glu Ile Asn Glu Phe Pro Leu Gly Leu
 785 790 795 800
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 Leu Leu Asp Leu Glu Val Leu Lys Val Tyr Asp Cys Lys Asp Gly Phe
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 Lys Val Ser Lys Leu Lys Ser Leu Gln Leu Glu Lys Thr Arg Ile Asn
 850 855 860
 Val Asn Val Val Asp Asp Ala Ser Ser Gly Gly His Leu Pro Arg Tyr
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 Pro Thr Trp Leu Pro Gly Ile Glu Asn Leu Glu Asn Leu Thr Ser Leu
 900 905 910
 Glu Val Asn Asp Ile Phe Gln Thr Leu Gly Gly Asp Leu Asp Gly Leu
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 Gln Gly Leu Arg Ser Leu Glu Ile Leu Arg Ile Arg Lys Val Asn Gly

| | | | | |
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| 945 | 950 | 955 | | 960 |
| Lys Leu Arg Lys Phe Tyr Ile Thr Glu Cys Pro Asp Leu Ile Glu Leu | | | | |
| | 965 | 970 | | 975 |
| Leu Pro Cys Glu Leu Gly Val Gln Thr Val Val Val Pro Ser Met Ala | | | | |
| | 980 | 985 | | 990 |
| Glu Leu Thr Ile Arg Asp Cys Pro Arg Leu Glu Val Gly Pro Met Ile | | | | |
| | 995 | 1000 | | 1005 |
| Arg Ser Leu Pro Lys Phe Pro Met Leu Lys Lys Leu Asp Leu Ala Val | | | | |
| | 1010 | 1015 | | 1020 |
| Ala Asn Ile Thr Lys Glu Glu Asp Leu Asp Ala Ile Gly Ser Leu Glu | | | | |
| 1025 | 1030 | 1035 | | 1040 |
| Glu Leu Val Ser Leu Glu Leu Glu Leu Asp Asp Thr Ser Ser Gly Ile | | | | |
| | 1045 | 1050 | | 1055 |
| Glu Arg Ile Val Ser Ser Ser Lys Leu Gln Lys Leu Thr Thr Leu Val | | | | |
| | 1060 | 1065 | | 1070 |
| Val Lys Val Pro Ser Leu Arg Glu Ile Glu Gly Leu Glu Glu Leu Lys | | | | |
| | 1075 | 1080 | | 1085 |
| Ser Leu Gln Asp Leu Tyr Leu Glu Gly Cys Thr Ser Leu Gly Arg Leu | | | | |
| | 1090 | 1095 | | 1100 |
| Pro Leu Glu Lys Leu Lys Glu Leu Asp Ile Gly Gly Cys Pro Asp Leu | | | | |
| 1105 | 1110 | 1115 | | 1120 |
| Thr Glu Leu Val Gln Thr Val Val Ala Val Pro Ser Leu Arg Gly Leu | | | | |
| | 1125 | 1130 | | 1135 |
| Thr Ile Arg Asp Cys Pro Arg Leu Glu Val Gly Pro Met Ile Gln Ser | | | | |
| | 1140 | 1145 | | 1150 |
| Leu Pro Lys Phe Pro Met Leu Asn Glu Leu Thr Leu Ser Met Val Asn | | | | |
| | 1155 | 1160 | | 1165 |
| Ile Thr Lys Glu Asp Glu Leu Glu Val Leu Gly Ser Leu Glu Glu Leu | | | | |
| | 1170 | 1175 | | 1180 |
| Asp Ser Leu Glu Leu Thr Leu Asp Asp Thr Cys Ser Ser Ile Glu Arg | | | | |
| 1185 | 1190 | 1195 | | 1200 |
| Ile Ser Phe Leu Ser Lys Leu Gln Lys Leu Thr Thr Leu Ile Val Glu | | | | |
| | 1205 | 1210 | | 1215 |
| Val Pro Ser Leu Arg Glu Ile Glu Gly Leu Ala Glu Leu Lys Ser Leu | | | | |
| | 1220 | 1225 | | 1230 |
| Arg Ile Leu Tyr Leu Glu Gly Cys Thr Ser Leu Glu Arg Leu Trp Pro | | | | |
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| | 30 |
| Glu Val Leu Asn Asp Lys Gly Ile Lys Thr Phe Gln Asp Asp Lys Arg | |
| | 45 |
| Leu Glu Tyr Gly Ala Thr Ile Pro Gly Glu Leu Cys Lys Ala Ile Glu | |
| | 60 |
| Glu Ser Gln Phe Ala Ile Val Val Phe Ser Glu Asn Tyr Ala Thr Ser | |
| 65 | 80 |

| | | | | | | | | | | | | | | | | |
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| Arg | Trp | Cys | Leu | Asn | Glu | Leu | Val | Lys | Ile | Met | Glu | Cys | Lys | Thr | Arg | |
| | | | | 85 | | | | | 90 | | | | | 95 | | |
| Phe | Lys | Gln | Thr | Val | Ile | Pro | Ile | Phe | Tyr | Asp | Val | Asp | Pro | Ser | His | |
| | | | 100 | | | | | 105 | | | | | 110 | | | |
| Val | Arg | Asn | Gln | Lys | Glu | Ser | Phe | Ala | Lys | Ala | Phe | Glu | Glu | His | Glu | |
| | | 115 | | | | | 120 | | | | | 125 | | | | |
| Thr | Lys | Tyr | Lys | Asp | Asp | Val | Glu | Gly | Ile | Gln | Arg | Trp | Arg | Ile | Ala | |
| | 130 | | | | 135 | | | | | | 140 | | | | | |
| Leu | Asn | Glu | Ala | Ala | Asn | Leu | Lys | Gly | Ser | Cys | Asp | Asn | Arg | Asp | Lys | |
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| Thr | Asp | Ala | Asp | Cys | Ile | Arg | Gln | Ile | Val | Asp | Gln | Ile | Ser | Ser | Lys | |
| | | | 165 | | | | | 170 | | | | | | 175 | | |
| Leu | Cys | Lys | Ile | Ser | Leu | Ser | Tyr | Leu | Gln | Asn | Ile | Val | Gly | Ile | Asp | |
| | | 180 | | | | | | 185 | | | | | 190 | | | |
| Thr | His | Leu | Glu | Lys | Ile | Glu | Ser | Leu | Leu | Glu | Ile | Gly | Ile | Asn | Gly | |
| | 195 | | | | | | 200 | | | | | 205 | | | | |
| Val | Arg | Ile | Met | Gly | Ile | Trp | Gly | Met | Gly | Gly | Val | Gly | Lys | Thr | Thr | |
| | 210 | | | | | 215 | | | | | 220 | | | | | |
| Ile | Ala | Arg | Ala | Ile | Phe | Asp | Thr | Leu | Leu | Gly | Arg | Met | Asp | Ser | Ser | |
| 225 | | | | | 230 | | | | | 235 | | | | | 240 | |
| Tyr | Gln | Phe | Asp | Gly | Ala | Cys | Phe | Leu | Lys | Asp | Ile | Lys | Glu | Asn | Lys | |
| | | | 245 | | | | | 250 | | | | | | 255 | | |
| Arg | Gly | Met | His | Ser | Leu | Gln | Asn | Ala | Leu | Leu | Ser | Glu | Leu | Leu | Arg | |
| | | 260 | | | | | | 265 | | | | | 270 | | | |
| Glu | Lys | Ala | Asn | Tyr | Asn | Asn | Glu | Glu | Asp | Gly | Lys | His | Gln | Met | Ala | |
| | 275 | | | | | | 280 | | | | | 285 | | | | |
| Ser | Arg | Leu | Arg | Ser | Lys | Lys | Val | Leu | Ile | Val | Leu | Asp | Asp | Ile | Asp | |
| | 290 | | | | | 295 | | | | 300 | | | | | | |
| Asn | Lys | Asp | His | Tyr | Leu | Glu | Tyr | Leu | Ala | Gly | Asp | Leu | Asp | Trp | Phe | |
| 305 | | | | | 310 | | | | | 315 | | | | | 320 | |
| Gly | Asn | Gly | Ser | Arg | Ile | Ile | Ile | Thr | Thr | Arg | Asp | Lys | His | Leu | Ile | |
| | | | 325 | | | | | | 330 | | | | | 335 | | |
| Glu | Lys | Asn | Asp | Ile | Ile | Tyr | Glu | Val | Thr | Ala | Leu | Pro | Asp | His | Glu | |
| | | 340 | | | | | | 345 | | | | | 350 | | | |
| Ser | Ile | Gln | Leu | Phe | Lys | Gln | His | Ala | Phe | Gly | Lys | Glu | Val | Pro | Asn | |
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| Glu | Asn | Phe | Glu | Lys | Leu | Ser | Leu | Glu | Val | Val | Asn | Tyr | Ala | Lys | Gly | |
| | 370 | | | | | 375 | | | | | 380 | | | | | |
| Leu | Pro | Leu | Ala | Leu | Lys | Val | Trp | Gly | Ser | Leu | Leu | His | Asn | Leu | Arg | |
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| Leu | Thr | Glu | Trp | Lys | Ser | Ala | Ile | Glu | His | Met | Lys | Asn | Asn | Ser | Tyr | |
| | | | 405 | | | | | | 410 | | | | | 415 | | |
| Ser | Gly | Ile | Ile | Asp | Lys | Leu | Lys | Ile | Ser | Tyr | Asp | Gly | Leu | Glu | Pro | |
| | | 420 | | | | | | 425 | | | | | 430 | | | |
| Lys | Gln | Gln | Glu | Met | Phe | Leu | Asp | Ile | Ala | Cys | Phe | Leu | Arg | Gly | Glu | |
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| Glu | Lys | Asp | Tyr | Ile | Leu | Gln | Ile | Leu | Glu | Ser | Cys | His | Ile | Gly | Ala | |
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| Glu | Tyr | Gly | Leu | Arg | Ile | Leu | Ile | Asp | Lys | Ser | Leu | Val | Phe | Ile | Ser | |
| 465 | | | | | 470 | | | | 475 | | | | | | 480 | |
| Glu | Tyr | Asn | Gln | Val | Gln | Met | His | Asp | Leu | Ile | Gln | Asp | Met | Gly | Lys | |
| | | | 485 | | | | | 490 | | | | | | 495 | | |
| Tyr | Ile | Val | Asn | Phe | Gln | Lys | Asp | Pro | Gly | Glu | Arg | Ser | Arg | Leu | Trp | |
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| Leu | Ala | Lys | Glu | Val | Glu | Glu | Val | Met | Ser | Asn | Asn | Thr | Gly | Thr | Met | |
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| Ala | Met | Glu | Ala | Ile | Trp | Val | Ser | Ser | Tyr | Ser | Ser | Thr | Leu | Arg | Phe | |
| | 530 | | | | | 535 | | | | | 540 | | | | | |
| Ser | Asn | Gln | Ala | Val | Lys | Asn | Met | Lys | Arg | Leu | Arg | Val | Phe | Asn | Met | |

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| Gly | Arg | Ser | Ser | Thr | His | Tyr | Ala | Ile | Asp | Tyr | Leu | Pro | Asn | Asn |
| | | | | 565 | | | | | 570 | | | | | 575 |
| Arg | Cys | Phe | Val | Cys | Thr | Asn | Tyr | Pro | Trp | Glu | Ser | Phe | Pro | Ser |
| | | | 580 | | | | | 585 | | | | | 590 | Thr |
| Phe | Glu | Leu | Lys | Met | Leu | Val | His | Leu | Gln | Leu | Arg | His | Asn | Ser |
| | | 595 | | | | | 600 | | | | | 605 | | Leu |
| Arg | His | Leu | Trp | Thr | Glu | Thr | Lys | His | Leu | Pro | Ser | Leu | Arg | Arg |
| | 610 | | | | 615 | | | | | | 620 | | | Ile |
| Asp | Leu | Ser | Trp | Ser | Lys | Arg | Leu | Thr | Arg | Thr | Pro | Asp | Phe | Thr |
| 625 | | | | 630 | | | | | 635 | | | | | Gly |
| Met | Pro | Asn | Leu | Glu | Tyr | Val | Asn | Leu | Tyr | Gln | Cys | Ser | Asn | Leu |
| | | | 645 | | | | | 650 | | | | | | Glu |
| Glu | Val | His | His | Ser | Leu | Gly | Cys | Cys | Ser | Lys | Val | Ile | Gly | Leu |
| | | | 660 | | | | 665 | | | | | 670 | | Tyr |
| Leu | Asn | Asp | Cys | Lys | Ser | Leu | Lys | Arg | Phe | Pro | Cys | Val | Asn | Val |
| | 675 | | | | | 680 | | | | | 685 | | | Glu |
| Ser | Leu | Glu | Tyr | Leu | Gly | Leu | Arg | Ser | Cys | Asp | Ser | Leu | Glu | Lys |
| | 690 | | | | | 695 | | | | 700 | | | | Leu |
| Pro | Glu | Ile | Tyr | Gly | Arg | Met | Lys | Pro | Glu | Ile | Gln | Ile | His | Met |
| 705 | | | | 710 | | | | | 715 | | | | | Gln |
| Gly | Ser | Gly | Ile | Arg | Glu | Leu | Pro | Ser | Ser | Ile | Phe | Gln | Tyr | Lys |
| | | | 725 | | | | | 730 | | | | | | Thr |
| His | Val | Thr | Lys | Leu | Leu | Leu | Trp | Asn | Met | Lys | Asn | Leu | Val | Ala |
| | | 740 | | | | | 745 | | | | 750 | | | Leu |
| Pro | Ser | Ser | Ile | Cys | Arg | Leu | Lys | Ser | Leu | Val | Ser | Leu | Ser | Val |
| | | 755 | | | | 760 | | | | | 765 | | | Ser |
| Gly | Cys | Ser | Lys | Leu | Glu | Ser | Leu | Pro | Glu | Glu | Ile | Gly | Asp | Leu |
| | 770 | | | | 775 | | | | 780 | | | | | Asp |
| Asn | Leu | Arg | Val | Phe | Asp | Ala | Ser | Asp | Thr | Leu | Ile | Leu | Arg | Pro |
| 785 | | | | 790 | | | | | 795 | | | | | Pro |
| Ser | Ser | Ile | Ile | Arg | Leu | Asn | Lys | Leu | Ile | Ile | Leu | Met | Phe | Arg |
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| Phe | Lys | Asp | Gly | Val | His | Phe | Glu | Phe | Pro | Pro | Val | Ala | Glu | Gly |
| | | 820 | | | | | 825 | | | | | 830 | | Leu |
| His | Ser | Leu | Glu | Tyr | Leu | Asn | Leu | Ser | Tyr | Cys | Asn | Leu | Ile | Asp |
| | 835 | | | | | 840 | | | | | 845 | | | Gly |
| Gly | Leu | Pro | Glu | Glu | Ile | Gly | Ser | Leu | Ser | Ser | Leu | Lys | Lys | Leu |
| | 850 | | | | 855 | | | | 860 | | | | | Asp |
| Leu | Ser | Arg | Asn | Asn | Phe | Glu | His | Leu | Pro | Ser | Ser | Ile | Ala | Gln |
| 865 | | | | 870 | | | | | 875 | | | | | Leu |
| Gly | Ala | Leu | Gln | Ser | Leu | Asp | Leu | Lys | Asp | Cys | Gln | Arg | Leu | Thr |
| | | | 885 | | | | | 890 | | | | | 895 | Gln |
| Leu | Pro | Glu | Leu | Pro | Pro | Glu | Leu | Asn | Glu | Leu | His | Val | Asp | Cys |
| | | 900 | | | | | 905 | | | | | 910 | | His |
| Met | Ala | Leu | Lys | Phe | Ile | His | Tyr | Leu | Val | Thr | Lys | Arg | Lys | Lys |
| | | 915 | | | | 920 | | | | | 925 | | | Leu |
| His | Arg | Val | Lys | Leu | Asp | Asp | Ala | His | Asn | Asp | Thr | Met | Tyr | Asn |
| | 930 | | | | 935 | | | | | | 940 | | | Leu |
| Phe | Ala | Tyr | Thr | Met | Phe | Gln | Asn | Ile | Ser | Ser | Met | Arg | His | Asp |
| 945 | | | | 950 | | | | | 955 | | | | | Ile |
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| | | | 965 | | | | | 970 | | | | | | Tyr |
| Pro | Glu | Lys | Ile | Pro | Ser | Trp | Phe | His | His | Gln | Gly | Trp | Asp | Ser |
| | | 980 | | | | | 985 | | | | | | 990 | Ser |
| Val | Ser | Val | Asn | Leu | Pro | Glu | Asn | Trp | Tyr | Ile | Pro | Asp | Lys | Phe |
| | | 995 | | | | 1000 | | | | | 1005 | | | Leu |
| Gly | Phe | Ala | Val | Cys | Tyr | Ser | Arg | Ser | Leu | Ile | Asp | Thr | Thr | Ala |
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Leu Ile Pro Val Cys Asp Asp Lys Met Ser Arg Met Thr Gln Lys Leu
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 Ser Gly Glu Glu Lys Met Tyr Gly Arg Leu Arg Leu Tyr Lys Glu Gly
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 Ser Glu Ser Tyr Val Glu His Asp Glu Ala Cys Gly Leu Ile Ala Arg
 35 40 45
 Val Ser Val Met Ala Tyr Lys Ala Glu Tyr Val Ile Asp Ser Cys Leu
 50 55 60
 Ala Tyr Ser His Pro Leu Trp Tyr Lys Val Leu Trp Ile Ser Glu Val
 65 70 75 80
 Leu Glu Asn Ile Lys Leu Val Asn Lys Val Val Gly Glu Thr Cys Glu
 85 90 95
 Arg Arg Asn Thr Glu Val Thr Val His Glu Val Ala Lys Thr Thr Thr
 100 105 110
 Asn Val Ala Pro Ser Phe Ser Ala Tyr Thr Gln Arg Ala Asn Glu Glu
 115 120 125
 Met Glu Gly Phe Gln Asp Thr Ile Asp Glu Leu Lys Asp Lys Leu Leu
 130 135 140
 Gly Gly Ser Pro Glu Leu Asp Val Ile Ser Ile Val Gly Met Pro Gly
 145 150 155 160
 Leu Gly Lys Thr Thr Leu Ala Lys Lys Ile Tyr Asn Asp Pro Glu Val
 165 170 175
 Thr Ser Arg Phe Asp Val His Ala Gln Cys Val Val Thr Gln Leu Tyr
 180 185 190
 Ser Trp Arg Glu Leu Leu Leu Thr Ile Leu Asn Asp Val Leu Glu Pro
 195 200 205
 Ser Asp Arg Asn Glu Lys Glu Asp Gly Glu Ile Ala Asp Glu Leu Arg
 210 215 220
 Arg Phe Leu Leu Thr Lys Arg Phe Leu Ile Leu Ile Asp Asp Val Trp
 225 230 235 240
 Asp Tyr Lys Val Trp Asp Asn Leu Cys Met Cys Phe Ser Asp Val Ser
 245 250 255
 Asn Arg Ser Arg Ile Ile Leu Thr Thr Arg Leu Asn Asp Val Ala Glu
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 Tyr Val Lys Cys Glu Ser Asp Pro His His Leu Arg Leu Phe Arg Asp

| | | | | | |
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| Asp | Glu Ser Trp Thr Leu | Leu Gln Lys Glu Val Phe | Gln Gly Glu Ser | | |
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| Cys | Pro Pro Glu Leu Glu | Asp Val Gly Phe Glu | Ile Ser Lys Ser Cys | | |
| 305 | | 310 | 315 | | 320 |
| Arg | Gly Leu Pro Leu Ser | Val Val Leu Val Ala | Gly Val Leu Lys Gln | | |
| | 325 | | 330 | | 335 |
| Lys | Lys Lys Thr Leu Asp | Ser Trp Lys Val Val | Glu Gln Ser Leu Ser | | |
| | 340 | | 345 | | 350 |
| Ser | Gln Arg Ile Gly Ser | Leu Glu Glu Ser Ile | Ser Ile Ile Gly Phe | | |
| | 355 | | 360 | | 365 |
| Ser | Tyr Lys Asn Leu Pro | His Tyr Leu Lys Pro | Cys Phe Leu Tyr Phe | | |
| | 370 | | 375 | | 380 |
| Gly | Gly Phe Leu Gln Gly | Lys Asp Ile His Asp | Ser Lys Met Thr Lys | | |
| 385 | | 390 | 395 | | 400 |
| Leu | Trp Val Ala Glu Glu | Phe Val Gln Ala Asn | Asn Glu Lys Gly Gln | | |
| | 405 | | 410 | | 415 |
| Glu | Asp Thr Arg Thr Arg | Phe Leu Gly Arg Ser | Tyr Trp | | |
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| ggttgggttt | atcttgggac | gagaaggaga | ccggcgaaaa | cagagctttg | aagatatata | 780 |
| gagctttgag | acagaaacgt | ttcttggtgt | tgctagatga | gtctgggaag | agatagactt | 840 |
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| cacggtctat | agcattatgc | aacaatatgg | gtgcggaata | caagttgaga | gtggagtttc | 960 |
| tggagaagaa | acacgcgtgg | gagctgttct | gtagtgaagg | atggagaaaa | gatcttttag | 1020 |
| agtcatcatc | aattcgccgg | ctcgcgga | ttatagttag | taaatgtgga | ggattgccac | 1080 |
| tagcgttgat | cacttttaga | ggagccatgg | ctcatagaga | gacagaagaa | gagtggatcc | 1140 |
| atgctagtga | agttctgact | agatttccag | cagagatgaa | gggtatgaac | tatgtatttg | 1200 |
| cccttttgaa | attcagctac | gacaacctcg | agagtgatct | gcttcggtct | tgtttcttgt | 1260 |
| actgcgcttt | attcccagaa | gaacattgta | tagagatcga | gcagcttggt | cagtactggg | 1320 |
| tcggcgaagg | gtttctcacc | agctcccatg | gcgttaacac | catttacaag | ggatattttc | 1380 |
| tcattgggga | tctgaaagcg | gcatgtttgt | tggaaaccgg | agatgagaaa | acacaggtga | 1440 |
| agatgcataa | tgtggtcaga | agctttgcat | tgtggatggc | atctgaacag | gggacttata | 1500 |
| aggagctgat | cctagttag | cctagcatgg | gacatactga | agctcctaaa | gcagaaaact | 1560 |

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| catatgcccc | aaactgacaa | cactgatgct | ccaacagaac | agctctttga | agaagattcc | 1680 |
| aaagagggtt | ttcatgcata | tgcctgttct | cagagtcttg | gacttgtcgt | tcacaagtat | 1740 |
| cactgagatt | ccgttgtcta | tcaagtattt | ggtggagttg | tatcatctgt | ctatgtcagg | 1800 |
| aacaaagata | agtgtattgc | cacaggagct | tgggaattct | agaaaaactga | agcatctgga | 1860 |
| cctacaaaga | actcagtttc | ttcagacgat | cccacgagat | gccatatgtt | ggctgagcaa | 1920 |
| gctcgaggtt | ctgaacttgt | actacagtta | cgccggttgg | gaactgcaga | gctttggaga | 1980 |
| agatgaagca | gaagaactcg | gattcgctga | cttggaaatac | ttggaaaacc | taaccacact | 2040 |
| cggtatcaact | gttctctcat | tggagaccct | aaaaactctc | ttcgagttcg | gtgctttgca | 2100 |
| taaacatata | cagcatctcc | acgttgaaga | gtgcaatgaa | ctcctctact | tcaatctccc | 2160 |
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| gacgttacac | agccttcaca | acttaaccag | agtgtgggga | aattctgtaa | gccaagattg | 2340 |
| tctgcggaat | atccgttgca | taaacatttc | acactgcaac | aaagtgaaga | atgtctcatg | 2400 |
| ggttcagaaa | ctcccaaagc | tagaggtgat | tgaactgttc | gactgcagag | agatagagga | 2460 |
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| agcactggaa | aaagatcaac | caaacgaaga | gctttgttat | ttaccgagct | ttgttccaaa | 2880 |
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| taatcataaa | aaccaaacta | tccgcgatca | aatagatctc | acgactatga | ggacgaagac | 3060 |
| tcaccgagta | tcgtcgatat | agaaactcca | agctccagtt | ccgatcagtg | aagacgaaca | 3120 |
| agtttatcag | atctctgcaa | caattctggg | aatcgtcacc | tcagattaga | cctccagtaa | 3180 |
| gaagtggaaa | agcatggacg | acgactgtga | agaattgagc | taatgagctg | aaccggatcc | 3240 |
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| aattgttacg | tttgagcccc | aataatcata | gatattgtag | tgaagaccaa | atttcatggt | 3360 |
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<213> Arabidopsis thaliana

<400> 142

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| 1 | | | | 5 | | | | | 10 | | | | | 15 | |
| Glu | Ser | Met | Asn | Met | Ala | Glu | Arg | Arg | Gly | His | Lys | Thr | Asp | Leu | Arg |
| | | | 20 | | | | | 25 | | | | | 30 | | |
| Gln | Ala | Ile | Thr | Asp | Leu | Glu | Thr | Ala | Ile | Gly | Asp | Leu | Lys | Ala | Ile |
| | | 35 | | | | | 40 | | | | | 45 | | | |
| Arg | Asp | Asp | Leu | Thr | Leu | Arg | Ile | Gln | Gln | Asp | Gly | Leu | Glu | Gly | Arg |
| | 50 | | | | | 55 | | | | | 60 | | | | |
| Ser | Cys | Ser | Asn | Arg | Ala | Arg | Glu | Trp | Leu | Ser | Ala | Val | Gln | Val | Thr |
| 65 | | | | | 70 | | | | | 75 | | | | 80 | |
| Glu | Thr | Lys | Thr | Ala | Leu | Leu | Leu | Val | Arg | Phe | Arg | Arg | Arg | Glu | Gln |
| | | | | 85 | | | | 90 | | | | | | 95 | |
| Arg | Thr | Arg | Met | Arg | Arg | Arg | Tyr | Leu | Ser | Cys | Phe | Gly | Cys | Ala | Asp |
| | | | 100 | | | | | 105 | | | | | | 110 | |
| Tyr | Lys | Leu | Cys | Lys | Lys | Val | Ser | Ala | Ile | Leu | Lys | Ser | Ile | Gly | Glu |
| | | 115 | | | | | 120 | | | | | | 125 | | |
| Leu | Arg | Glu | Arg | Ser | Glu | Ala | Ile | Lys | Thr | Asp | Gly | Gly | Ser | Ile | Gln |
| | 130 | | | | | 135 | | | | | 140 | | | | |
| Val | Thr | Cys | Arg | Glu | Ile | Pro | Ile | Lys | Ser | Val | Val | Gly | Asn | Thr | Thr |
| 145 | | | | | 150 | | | | | 155 | | | | | 160 |

| | | | | | | | | | | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Met | Met | Glu | Gln | Val | Leu | Glu | Phe | Leu | Ser | Glu | Glu | Glu | Glu | Arg | Gly | 165 | 170 | 175 |
| Ile | Ile | Gly | Val | Tyr | Gly | Pro | Gly | Gly | Val | Gly | Lys | Thr | Thr | Leu | Met | 180 | 185 | 190 |
| Gln | Ser | Ile | Asn | Asn | Glu | Leu | Ile | Thr | Lys | Gly | His | Gln | Tyr | Asp | Val | 195 | 200 | 205 |
| Leu | Ile | Trp | Val | Gln | Met | Ser | Arg | Glu | Phe | Gly | Glu | Cys | Thr | Ile | Gln | 210 | 215 | 220 |
| Gln | Ala | Val | Gly | Ala | Arg | Leu | Gly | Leu | Ser | Trp | Asp | Glu | Lys | Glu | Thr | 225 | 230 | 235 |
| Gly | Glu | Asn | Arg | Ala | Leu | Lys | Ile | Tyr | Arg | Ala | Leu | Arg | Gln | Lys | Arg | 245 | 250 | 255 |
| Phe | Leu | Leu | Leu | Leu | Asp | Asp | Val | Trp | Glu | Glu | Ile | Asp | Leu | Glu | Lys | 260 | 265 | 270 |
| Thr | Gly | Val | Pro | Arg | Pro | Asp | Arg | Glu | Asn | Lys | Cys | Lys | Val | Met | Phe | 275 | 280 | 285 |
| Thr | Thr | Arg | Ser | Ile | Ala | Leu | Cys | Asn | Asn | Met | Gly | Ala | Glu | Tyr | Lys | 290 | 295 | 300 |
| Leu | Arg | Val | Glu | Phe | Leu | Glu | Lys | Lys | His | Ala | Trp | Glu | Leu | Phe | Cys | 305 | 310 | 315 |
| Ser | Lys | Val | Trp | Arg | Lys | Asp | Leu | Leu | Glu | Ser | Ser | Ser | Ile | Arg | Arg | 325 | 330 | 335 |
| Leu | Ala | Glu | Ile | Ile | Val | Ser | Lys | Cys | Gly | Gly | Leu | Pro | Leu | Ala | Leu | 340 | 345 | 350 |
| Ile | Thr | Leu | Gly | Gly | Ala | Met | Ala | His | Arg | Glu | Thr | Glu | Glu | Glu | Trp | 355 | 360 | 365 |
| Ile | His | Ala | Ser | Glu | Val | Leu | Thr | Arg | Phe | Pro | Ala | Glu | Met | Lys | Gly | 370 | 375 | 380 |
| Met | Asn | Tyr | Val | Phe | Ala | Leu | Leu | Lys | Phe | Ser | Tyr | Asp | Asn | Leu | Glu | 385 | 390 | 395 |
| Ser | Asp | Leu | Leu | Arg | Ser | Cys | Phe | Leu | Tyr | Cys | Ala | Leu | Phe | Pro | Glu | 405 | 410 | 415 |
| Glu | His | Ser | Ile | Glu | Ile | Glu | Gln | Leu | Val | Glu | Tyr | Trp | Val | Gly | Glu | 420 | 425 | 430 |
| Gly | Phe | Leu | Thr | Ser | Ser | His | Gly | Val | Asn | Thr | Ile | Tyr | Lys | Gly | Tyr | 435 | 440 | 445 |
| Phe | Leu | Ile | Gly | Asp | Leu | Lys | Ala | Ala | Cys | Leu | Leu | Glu | Thr | Gly | Asp | 450 | 455 | 460 |
| Glu | Lys | Thr | Gln | Val | Lys | Met | His | Asn | Val | Val | Arg | Ser | Phe | Ala | Leu | 465 | 470 | 475 |
| Trp | Met | Ala | Ser | Glu | Gln | Gly | Thr | Tyr | Lys | Glu | Leu | Ile | Leu | Val | Glu | 485 | 490 | 495 |
| Pro | Ser | Met | Gly | His | Thr | Glu | Ala | Pro | Lys | Ala | Glu | Asn | Trp | Arg | Gln | 500 | 505 | 510 |
| Ala | Leu | Val | Ile | Ser | Leu | Leu | Asp | Asn | Arg | Ile | Gln | Thr | Leu | Pro | Glu | 515 | 520 | 525 |
| Lys | Leu | Ile | Cys | Pro | Lys | Leu | Thr | Thr | Leu | Met | Leu | Gln | Gln | Asn | Ser | 530 | 535 | 540 |
| Ser | Leu | Lys | Lys | Ile | Pro | Thr | Gly | Phe | Phe | Met | His | Met | Pro | Val | Leu | 545 | 550 | 555 |
| Arg | Val | Leu | Asp | Leu | Ser | Phe | Thr | Ser | Ile | Thr | Glu | Ile | Pro | Leu | Ser | 565 | 570 | 575 |
| Ile | Lys | Tyr | Leu | Val | Glu | Leu | Tyr | His | Leu | Ser | Met | Ser | Gly | Thr | Lys | 580 | 585 | 590 |
| Ile | Ser | Val | Leu | Pro | Gln | Glu | Leu | Gly | Asn | Leu | Arg | Lys | Leu | Lys | His | 595 | 600 | 605 |
| Leu | Asp | Leu | Gln | Arg | Thr | Gln | Phe | Leu | Gln | Thr | Ile | Pro | Arg | Asp | Ala | 610 | 615 | 620 |
| Ile | Cys | Trp | Leu | Ser | Lys | Leu | Glu | Val | Leu | Asn | Leu | Tyr | Tyr | Ser | Tyr | | | |

| | | | | | | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| 625 | | | | | 630 | | | | | 635 | | | | 640 |
| Ala | Gly | Trp | Glu | Leu | Gln | Ser | Phe | Gly | Glu | Asp | Glu | Ala | Glu | Leu |
| | | | | 645 | | | | | 650 | | | | 655 | |
| Gly | Phe | Ala | Asp | Leu | Glu | Tyr | Leu | Glu | Asn | Leu | Thr | Thr | Leu | Gly |
| | | | 660 | | | | | 665 | | | | | 670 | |
| Thr | Val | Leu | Ser | Leu | Glu | Thr | Leu | Lys | Thr | Leu | Phe | Glu | Phe | Gly |
| | | 675 | | | | | 680 | | | | 685 | | | |
| Leu | His | Lys | His | Ile | Gln | His | Leu | His | Val | Glu | Glu | Cys | Asn | Glu |
| | 690 | | | | | 695 | | | | 700 | | | | |
| Leu | Tyr | Phe | Asn | Leu | Pro | Ser | Leu | Thr | Asn | His | Gly | Arg | Asn | Leu |
| 705 | | | | | 710 | | | | 715 | | | | | 720 |
| Arg | Leu | Ser | Ile | Lys | Ser | Cys | His | Asp | Leu | Glu | Tyr | Leu | Val | Thr |
| | | | 725 | | | | | 730 | | | | | | 735 |
| Ala | Asp | Phe | Glu | Asn | Asp | Trp | Leu | Pro | Ser | Leu | Glu | Val | Leu | Thr |
| | | | 740 | | | | 745 | | | | | 750 | | |
| His | Ser | Leu | His | Asn | Leu | Thr | Arg | Val | Trp | Gly | Asn | Ser | Val | Ser |
| | 755 | | | | | 760 | | | | 765 | | | | |
| Asp | Cys | Leu | Arg | Asn | Ile | Arg | Cys | Ile | Asn | Ile | Ser | His | Cys | Asn |
| 770 | | | | | 775 | | | | 780 | | | | | |
| Leu | Lys | Asn | Val | Ser | Trp | Val | Gln | Lys | Leu | Pro | Lys | Leu | Glu | Val |
| 785 | | | | | 790 | | | | 795 | | | | | 800 |
| Glu | Leu | Phe | Asp | Cys | Arg | Glu | Ile | Glu | Glu | Leu | Ile | Ser | Glu | His |
| | | | 805 | | | | | 810 | | | | | | 815 |
| Ser | Pro | Ser | Val | Glu | Asp | Pro | Thr | Leu | Phe | Pro | Ser | Leu | Lys | Thr |
| | | | 820 | | | | 825 | | | | | | 830 | |
| Arg | Thr | Arg | Asp | Leu | Pro | Glu | Leu | Asn | Ser | Ile | Leu | Pro | Ser | Arg |
| | | 835 | | | | 840 | | | | | 845 | | | |
| Ser | Phe | Gln | Lys | Val | Glu | Thr | Leu | Val | Ile | Thr | Asn | Cys | Pro | Arg |
| | 850 | | | | 855 | | | | 860 | | | | | |
| Lys | Lys | Leu | Pro | Phe | Gln | Glu | Arg | Arg | Thr | Gln | Met | Asn | Leu | Pro |
| 865 | | | | 870 | | | | | 875 | | | | | 880 |
| Val | Tyr | Cys | Glu | Glu | Lys | Trp | Trp | Lys | Ala | Leu | Glu | Lys | Asp | Gln |
| | | | 885 | | | | | 890 | | | | | | 895 |
| Asn | Glu | Glu | Leu | Cys | Tyr | Leu | Pro | Arg | Phe | Val | Pro | Asn | | |
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<400> 144
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| | | | | | | |
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| ttgctcacca | ttttgaatga | tgtgcttgag | ccttctgata | gcaatgaaaa | agaagatgga | 1500 |
| gaaatagctg | atgatctacg | ccgatttttg | ttgaccaaga | gattcttgat | tctcatlgat | 1560 |
| gatgtgtggg | actataaagt | gtgggacaat | ctatgtatgt | gcttcagtga | tgtttcaaat | 1620 |
| aggagttaga | ttatcctaac | aaccgccttg | aatgatgtcg | ccgaatatgt | caaatgtgaa | 1680 |
| agtatccccc | atcatcttcg | tttattcaga | gattgacgaga | gttggacatt | attacagaaa | 1740 |
| gaagtctttc | aaggagagag | ctgtccacct | gaacttgaag | atgtgggatt | tgaaatatca | 1800 |
| aaaagtgtga | gaggggttgc | tctctcagtt | gtgttagtag | ctgggtgttct | gaaacagaaa | 1860 |
| aagaagacac | tagattcatg | gaaagtagta | gaacaaagtc | taagttccca | gaggattggc | 1920 |
| agcttggaa | agagcatatc | tataattgga | ttcagttaca | agaattttacc | acactatctt | 1980 |
| aagccttggt | ttctctattt | tggaggattt | ttgcaggga | aggatattca | tgactcaaaa | 2040 |
| atgaccaagt | tgtgggtagc | tgaagagttt | gtacaagcaa | acaacgaaaa | aggacaagaa | 2100 |
| gatacccgca | caaggtttct | tggacgatct | tattggtagg | aatctggtga | tggccatgga | 2160 |
| gaagagacct | aatgccaagg | tgaaaacgtg | ccgcattcat | gatttgttgc | ataaattctg | 2220 |
| catggaaaag | gccaaacaag | aggatttccct | tctccagatc | aataggtaaa | aaaaactgta | 2280 |
| ttaattttac | attacaaaaa | aaaagaactg | tattaatttt | actgtattat | gtttatgcca | 2340 |
| actctcatth | ccatgtgttc | tctttttattc | aattcagtg | agaaggtgta | tttccctgaac | 2400 |
| gattggaaga | ataccgattg | ttcgttcatt | cttaccaaga | tgaaattgat | ctgtggcgcc | 2460 |
| catctcgctc | taatgtccgc | tctttactat | tcaatgcaat | tgatccagat | aacttgttat | 2520 |
| ggccgcgtga | tatctccttc | atttttgaga | gcttcaagct | tgttaaagt | ttggattttg | 2580 |
| aatcattcaa | cattggtggt | acttttccca | ttgaaacaca | atatctaatt | cagatgaagt | 2640 |
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| agatggtgaa | attgaggcat | atcatgttaa | atgatcggt | ttcttttgg | ttgcgtgaga | 2820 |
| acatggatgt | tttaactggt | aactcacaat | aacctaat | ggaaaccttt | tctactccgc | 2880 |
| gtctctttta | tggtaaagac | gcagagaaga | ttttgaggaa | gatgccaaaa | ttgagaaaa | 2940 |
| tgagttgcac | attttcagg | acatttgggt | attcaaggaa | attgaagggt | agggtgtttc | 3000 |
| gttttccag | attagatttt | ctaagtcacc | ttgagtcct | caagctggt | tcgaacagct | 3060 |
| atccagccaa | acttccctac | aagttcaatt | tccccctgca | actaaggga | ctgactttat | 3120 |
| caaagtccg | tctaccttgg | acccaaatt | cgatcattgc | agaactgccc | aacttgggtga | 3180 |
| ttcttaagtt | attgctcaga | gcctttgaag | gggatcactg | ggaagtga | gattcagagt | 3240 |
| tccatgaact | caaatactta | aaactggaca | acctcaaagt | tgtacaatgg | tccatctctg | 3300 |
| atgatgcttt | tcctaagctt | gaacatttgg | ttttaacgaa | atgtaagcat | cttgagaaaa | 3360 |
| tcccttctcg | ttttgaagat | gctgtttgtc | taaatagatt | tgaggtgaac | tggtgcaat | 3420 |
| ggaatgttgc | caattcagcc | caagatattc | aaactatgca | acatgaagtt | atagcaaatg | 3480 |
| attcattcac | agttactata | cagctccag | attggtctaa | agaacagccc | cttgactctt | 3540 |
| agcaaaggtt | tgttcttgc | gtgttcaccc | aagtgcattt | aacattttatt | cattttgttt | 3600 |
| tacaccagaa | catgtttatt | ttgctagtat | tacttgatac | attaaaagaa | atcgaactca | 3660 |
| tatttctgct | acagtcttaa | cttttcttgg | gcttacttga | ggtctagatt | agatcaatgg | 3720 |
| ttcatgtaat | ttttaattca | ctgtttcatt | caactgtctt | atgatagttg | tgaaatgaca | 3780 |
| atattgttat | ccctagccaa | atltattatg | ttcaaatgaa | aactgatgtc | acaactactt | 3840 |
| ttttgtgaaa | tggttttgaa | ttttttgcta | taaaattgac | gaattgacag | cttctatatt | 3900 |
| tgctcagctaa | actctttgtc | accagaagtg | tatttagaat | tactgtggtt | ttatgaaaga | 3960 |
| gttctgtaga | atlttatgct | tttgagaat | atagtttaaa | acaacaacac | ttctctgttt | 4020 |
| cagagatagc | agaagctaaa | gttcaaggca | ttttgtttat | ttctagaaca | agtggagttc | 4080 |
| ttatgttgaa | ttcttgaaaa | gaagaagaat | caggagcagg | taaagttatc | tctttttatg | 4140 |
| tttttcttct | tttagatggt | atltcttcat | cttgaacgtg | aacaccgctg | aaagcatttt | 4200 |
| aataaaaccg | gagagaaaaa | taagatcttt | ttatataaag | cattatcatg | taaatatgcc | 4260 |
| taaatccata | tgggtacaact | gtttgacaaa | atgatagaga | ggggagtttt | atagtataag | 4320 |
| taaaacagga | ttgagaaaaa | aatccttgca | cgattttcaa | ttcttgcca | catcacaatg | 4380 |
| tgtgtcaaa | ttccctctct | taagtgaac | aagcaatcag | aaaagctcat | tcttatcggt | 4440 |
| gacataccaa | taccagctga | ctgtctcatc | ttggttaact | tagccttgct | tacttagact | 4500 |
| attagattag | ttactaatga | actggtaaat | tggaaacaaa | tgtagttagc | ttgatgagct | 4560 |
| ggtagacatg | tatatatgaa | gatacacgcg | taactttagt | cgatggttaa | tttttcatth | 4620 |
| ttgatttttt | ttcttcacag | agtatatatg | aacttggcct | aaaagttttg | cttactaat | 4680 |
| tttaactatta | ccgtggatga | aacaagcatg | gcaacatttt | caacaactat | cactcaagca | 4740 |
| atgtaaaaaa | tggaggttct | acgagcggta | catgtaagag | ttttgtgcac | acaagaggtt | 4800 |
| ctgagacttg | aaccatccat | gtccaaggca | gttgagatgc | tagtaaaaga | agaagaagat | 4860 |
| gagcctgcac | taattaatct | ccctgtatga | atgagagaat | gagaaaaaga | tggagcttca | 4920 |
| tgaacccaaa | gttacctttt | ttttttcttc | ttaatggcat | tactttgaag | cacatgtttg | 4980 |

| | |
|--|------|
| ttagttgtaa attgtaatgg tgaagtgttt gtaaataatag ggagtgatat ttgaaagaat | 5040 |
| ggttgtgtta tctttacaaa ccggaatcat ttctgtataa ttttcttctg taatttttgg | 5100 |
| tttcggttta ttcattactc atttcagtaa gctt | 5134 |

<210> 158
 <211> 26
 <212> DNA
 <213> Arabidopsis thaliana

<220>
 <221> misc_feature
 <222> (1)...(26)
 <223> n = A,T,C or G

| | |
|------------------------------|----|
| <400> 158 | |
| ggnatgggng gnnrnggnaa racnac | 26 |

<210> 159
 <211> 20
 <212> DNA
 <213> Arabidopsis thaliana

<220>
 <221> misc_feature
 <222> (1)...(20)
 <223> n = A,T,C or G

| | |
|-----------------------|----|
| <400> 159 | |
| ncgngwngtn akdawnegna | 20 |

<210> 160
 <211> 17
 <212> DNA
 <213> Arabidopsis thaliana

<220>
 <221> misc_feature
 <222> (1)...(17)
 <223> n = A,T,C or G

| | |
|--------------------|----|
| <400> 160 | |
| ggwntbggwa arachac | 17 |

<210> 161
 <211> 33
 <212> DNA
 <213> Arabidopsis thaliana

<220>
 <221> misc_feature
 <222> (1)...(33)
 <223> n = A,T,C or G

| | |
|------------------------------------|----|
| <400> 161 | |
| nrynrdngtn gtyttncna nncnssnrk ncc | 33 |

<210> 162

<211> 26
 <212> DNA
 <213> Arabidopsis thaliana

 <220>
 <221> misc_feature
 <222> (1)...(26)
 <223> n = A,T,C or G

 <400> 162
 ggnmynssng gnntnggnaa racnac 26

 <210> 163
 <211> 13
 <212> DNA
 <213> Arabidopsis thaliana

 <400> 163
 tygaygayrt bra 13

 <210> 164
 <211> 16
 <212> DNA
 <213> Arabidopsis thaliana

 <220>
 <221> misc_feature
 <222> (1)...(16)
 <223> n = A,T,C or G

 <400> 164
 tyccavayrt crtçna 16

 <210> 165
 <211> 26
 <212> DNA
 <213> Arabidopsis thaliana

 <220>
 <221> misc_feature
 <222> (1)...(26)
 <223> n = A,T,C or G

 <400> 165
 vymnayrtcr tcnadnavna nnarna 26

 <210> 166
 <211> 26
 <212> DNA
 <213> Arabidopsis thaliana

 <220>
 <221> misc_feature
 <222> (1)...(26)
 <223> n = A,T,C or G

 <400> 166
 wwnmrrdtny tnntnbtnht ngayga 26

<210> 167
<211> 21
<212> DNA
<213> Arabidopsis thaliana

<220>
<221> misc_feature
<222> (1)...(21)
<223> n = A,T,C or G

<400> 167
ncgngwngtn akdawnngng a

21

<210> 168
<211> 21
<212> DNA
<213> Arabidopsis thaliana

<220>
<221> misc_feature
<222> (1)...(21)
<223> n = A,T,C or G

<400> 168
ncknswngtn addatdaatn g

21

<210> 169
<211> 12
<212> DNA
<213> Arabidopsis thaliana

<220>
<221> misc_feature
<222> (1)...(12)
<223> n = A,T,C or G

<400> 169
narnggnarn cc

12

<210> 170
<211> 17
<212> DNA
<213> Arabidopsis thaliana

<400> 170
ggwytbccwy tbgchyt

17

<210> 171
<211> 17
<212> DNA
<213> Arabidopsis thaliana

<220>
<221> misc_feature
<222> (1)...(17)
<223> n = A,T,C or G

<400> 171
ardgcvarwg gvarncc

17

<210> 172
<211> 24
<212> DNA
<213> Arabidopsis thaliana

<220>
<221> misc_feature
<222> (1)...(24)
<223> n = A,T,C or G

<400> 172
nnnnwynavn shnarnggna rncc

24

<210> 173
<211> 17
<212> DNA
<213> Arabidopsis thaliana

<220>
<221> misc_feature
<222> (1)...(17)
<223> n = A,T,C or G

<400> 173
ggnytnccny tndsnbt

17

<210> 174
<211> 20
<212> DNA
<213> Arabidopsis thaliana

<400> 174
arrtrtrcrt adswrawytt

20

<210> 175
<211> 20
<212> DNA
<213> Arabidopsis thaliana

<220>
<221> misc_feature
<222> (1)...(20)
<223> n = A,T,C or G

<400> 175
arnyyntyrt ansrnannyy

20

<210> 176
<211> 20
<212> DNA
<213> Arabidopsis thaliana

<220>
<221> misc_feature
<222> (1)...(20)
<223> n = A,T,C or G

<400> 176
rrnwthwsnt ayranrvnyt

20

<210> 177
<211> 20
<212> DNA
<213> Arabidopsis thaliana

<220>
<221> misc_feature
<222> (1)...(20)
<223> n = A,T,C or G

<400> 177
gtnttyytnw snttymgrgg

20

<210> 178
<211> 23
<212> DNA
<213> Arabidopsis thaliana

<220>
<221> misc_feature
<222> (1)...(23)
<223> n = A,T,C or G

<400> 178
ccnathttyt ayrwbgtnga ycc

23

<210> 179
<211> 17
<212> DNA
<213> Arabidopsis thaliana

<220>
<221> misc_feature
<222> (1)...(17)
<223> n = A,T,C or G

<400> 179
gtnggnathg ayrmnca

17

<210> 180
<211> 21
<212> DNA
<213> Arabidopsis thaliana

<220>
<221> misc_feature
<222> (1)...(21)
<223> n = A,T,C or G

<400> 180
raarcangcd atrtcnarra a

21

<210> 181
<211> 20
<212> DNA
<213> Arabidopsis thaliana

<220>
<221> misc_feature

<222> (1)...(20)
 <223> n = A,T,C or G

 <400> 181
 ttyytngaya thgcntgytt 20

 <210> 182
 <211> 26
 <212> DNA
 <213> Arabidopsis thaliana

 <220>
 <221> misc_feature
 <222> (1)...(26)
 <223> n = A,T,C or G

 <400> 182
 cccatrtccy knadnwrrtc rtgcat 26

 <210> 183
 <211> 26
 <212> DNA
 <213> Arabidopsis thaliana

 <220>
 <221> misc_feature
 <222> (1)...(26)
 <223> n = A,T,C or G

 <400> 183
 atgcaygayy wnhthnmrrga yatggg 26

 <210> 184
 <211> 15
 <212> DNA
 <213> Arabidopsis thaliana

 <220>
 <221> misc_feature
 <222> (1)...(15)
 <223> n = A,T,C or G

 <400> 184
 narnswytyn arytt 15

 <210> 185
 <211> 17
 <212> DNA
 <213> Arabidopsis thaliana

 <220>
 <221> misc_feature
 <222> (1)...(17)
 <223> n = A,T,C or G

 <400> 185
 wsnaarytnr arwsnytt 17

 <210> 186

<211> 21
<212> DNA
<213> Arabidopsis thaliana

<220>
<221> misc_feature
<222> (1)...(21)
<223> n = A,T,C or G

<400> 186
dwyytcnarn swnyknarnc c

21

<210> 187
<211> 17
<212> DNA
<213> Arabidopsis thaliana

<220>
<221> misc_feature
<222> (1)...(17)
<223> n = A,T,C or G

<400> 187
ggnytnmrnw snytnga

17

<210> 188
<211> 13
<212> PRT
<213> Arabidopsis thaliana

<400> 188
Leu Lys Phe Ser Tyr Asp Asn Leu Glu Ser Asp Leu Leu
1 5 10

<210> 189
<211> 16
<212> PRT
<213> Arabidopsis thaliana

<400> 189
Gly Val Tyr Gly Pro Gly Gly Val Gly Lys Thr Thr Leu Met Gln Ser
1 5 10 15

<210> 190
<211> 14
<212> PRT
<213> Arabidopsis thaliana

<400> 190
Gly Gly Leu Pro Leu Ala Leu Ile Thr Leu Gly Gly Ala Met
1 5 10

<210> 191
<211> 11
<212> PRT
<213> Arabidopsis thaliana

<220>
<221> VARIANT
<222> (2)...(2)
<223> Xaa is Met or Pro

<221> VARIANT
<222> (3)...(3)
<223> Xaa is Gly or Pro

<221> VARIANT
<222> (5)...(5)
<223> Xaa is Ile, Leu or Val

<221> VARIANT
<222> (10)...(10)
<223> Xaa is Ile, Leu or Thr

<221> VARIANT
<222> (11)...(11)
<223> Xaa is Ala or Met

<400> 191
Gly Xaa Xaa Gly Xaa Gly Lys Thr Thr Xaa Xaa
1 5 10

<210> 192
<211> 11
<212> PRT
<213> Arabidopsis thaliana

<220>
<221> VARIANT
<222> (1)...(11)
<223> Xaa at 1 is Phe or Lys; Xaa at 2 is Arg or Lys;
Xaa at 3 is Ile, Val or Phe; Xaa at 5 is Ile, Leu
or Val; Xaa at 6 is Ile or Leu; Xaa at 7 is Ile or
Val; Xaa at 10 is Ile, Leu or Val; Xaa at 11 is
Asp or Trp;

<400> 192
Xaa Xaa Xaa Leu Xaa Xaa Xaa Asp Asp Xaa Xaa
1 5 10

<210> 193
<211> 8
<212> PRT
<213> Arabidopsis thaliana

<220>
<221> VARIANT
<222> (1)...(8)
<223> Xaa at 1 is Ser or Cys; Xaa at 2 is Arg or Lys;
Xaa at 3 is Phe, Ile or Val; Xaa at 4 is Ile or
Met; Xaa at 5 is Ile, Leu or Phe; Xaa at 7 is Ser,
Cys or Thr;

<400> 193

Xaa Xaa Xaa Xaa Xaa Thr Xaa Arg
1 5

<210> 194
<211> 8
<212> PRT
<213> Arabidopsis thaliana

<220>
<221> VARIANT
<222> (1)...(8)
<223> Xaa at 5 is Thr, Ala or Thr; Xaa at 6 is Leu or
Val; Xaa at 7 is Ile, Val or Lys; Xaa at 8 is Val
or Thr;

<400> 194
Gly Leu Pro Leu Xaa Xaa Xaa Xaa
1 5

<210> 195
<211> 7
<212> PRT
<213> Arabidopsis thaliana

<220>
<221> VARIANT
<222> (1)...(7)
<223> Xaa at 1 is Lys or Gly; Xaa at 2 is Ile or Phe;
Xaa at 5 is Asp or Lys; Xaa at 6 is Ala, Gly or
Asn;

<400> 195
Xaa Xaa Ser Tyr Xaa Xaa Leu
1 5

<210> 196
<211> 4
<212> PRT
<213> Arabidopsis thaliana

<400> 196
Asn Ser His Arg
1

<210> 197

<400> 197
000

<210> 198
<211> 4
<212> PRT
<213> Arabidopsis thaliana

<400> 198
Thr Gly Asp Leu
1

<210> 199
<211> 4
<212> PRT
<213> Arabidopsis thaliana

<400> 199
His Gly Thr Tyr
1

<210> 200
<211> 11
<212> PRT
<213> Arabidopsis thaliana

<400> 200
Arg Met Ser His Gly Phe Arg Asn Ser Gln Ser
1 5 10

<210> 201
<211> 27
<212> PRT
<213> Arabidopsis thaliana

<400> 201
Gly Glu Met Val Glu Ser Thr Gly Lys Arg Ser Thr Lys Arg Arg Ala
1 5 10 15
Leu Leu Phe Thr Ala Leu Cys Ser Lys Leu Ile
20 25

<210> 202
<211> 9
<212> PRT
<213> Arabidopsis thaliana

<220>
<221> VARIANT
<222> (1)...(9)
<223> Xaa at position 5 is Met or Asp

<400> 202
Pro Ile Phe Tyr Xaa Val Asp Pro Ser
1 5

<210> 203
<211> 6
<212> PRT
<213> Arabidopsis thaliana

<220>
<221> VARIANT

<222> (1)...(6)
<223> Xaa at position 5 is Asp or Thr

<400> 203
Val Gly Ile Asp Xaa His
1 5

<210> 204
<211> 9
<212> PRT
<213> Arabidopsis thaliana

<220>
<221> VARIANT
<222> (1)...(9)
<223> Xaa at position 1 is Gln or Leu; Xaa at position 2
is Leu or Ile; Xaa at position 3 is Arg or Gln.

<400> 204
Met His Asp Xaa Xaa Xaa Asp Met Gly
1 5

<210> 205
<211> 6
<212> PRT
<213> Arabidopsis thaliana

<400> 205
Ser Lys Leu Lys Ser Leu
1 5

<210> 206
<211> 8
<212> PRT
<213> Arabidopsis thaliana

<220>
<221> VARIANT
<222> (1)...(8)
<223> Xaa at position 3 is Arg or His; Xaa at position 7
is Ile or Tyr.

<400> 206
Gly Leu Xaa Ser Leu Glu Xaa Leu
1 5

<210> 207
<211> 6
<212> PRT
<213> Arabidopsis thaliana

<400> 207
Ser Lys Leu Lys Ser Leu
1 5

<210> 208
<211> 7
<212> PRT
<213> Arabidopsis thaliana

<400> 208
Lys Phe Ser Tyr Asp Asn Leu
1 5

<210> 209
<211> 23
<212> PRT
<213> Arabidopsis Thalia

<220>
<221> VARIANT
<222> 2,3,5,6,8,9,11,12,14,16-9,21,22
<223> Xaa=any amino acid

<221> VARIANT
<222> 4,15,20,23
<223> Xaa=L or I or V

<400> 209
Pro Xaa Xaa Xaa Xaa Xaa Leu Xaa Xaa Leu Xaa Xaa Leu Xaa Xaa Xaa
1 5 10 15
Xaa Xaa Xaa Xaa Xaa Xaa Xaa
20

<210> 210
<211> 23
<212> PRT
<213> Yeast

<220>
<221> VARIANT
<222> 2,3,5,6,8,9,11,12,14,16,17,19,21,22
<223> Xaa= any amino acid

<221> VARIANT
<222> 4,20,23
<223> Xaa=L or I or V

<400> 210
Pro Xaa Xaa Xaa Xaa Xaa Leu Xaa Xaa Leu Xaa Xaa Leu Xaa Leu Xaa
1 5 10 15
Xaa Asn Xaa Xaa Xaa Xaa Xaa
20

<210> 211
<211> 12
<212> PRT
<213> Arabidopsis thaliana

<220>
<221> VARIANT

<222> 2,3,5,6,8,9,11
<223> Xaa=any amino acid

<221> VARIANT
<222> 1
<223> Xaa=I or L or V

<221> VARIANT
<222> 10
<223> Xaa=I or L

<400> 211
Xaa Xaa Xaa Leu Xaa Xaa Leu Xaa Xaa Xaa Xaa Leu
1 5 10

<210> 212
<211> 7
<212> PRT
<213> Arabidopsis thaliana

<220>
<221> VARIANT
<222> 1
<223> Xaa=I or R

<221> VARIANT
<222> 2,5-7
<223> Xaa=any amino acid

<400> 212
Xaa Xaa Asp Leu Xaa Xaa Xaa
1 5

<210> 213
<211> 8
<212> PRT
<213> Arabidopsis thaliana

<400> 213
Gly Pro Gly Gly Val Gly Lys Thr
1 5

<210> 214
<211> 16
<212> PRT
<213> Arabidopsis thaliana

<400> 214
Thr Tyr Gly Ala Tyr Gly Ala Tyr Arg Thr Asx Tyr Arg Asx Arg Ala
1 5 10 15